

MISR Geo-Calibration Quality Statement June 1, 2005

Nominal Situation **Update**

For current production, products with the version number 0024 and higher, two additional PGEs are included designed specifically to deal with the pointing issue of Da camera. As a result Da geolocation and co-registration accuracy are now in line with other eight cameras. The expected mean geolocation error for all nine cameras is below 20 meters. Standard deviations range between 30 meters for A-Nadir camera, and 70 meters for most oblique D's cameras.

For products with version numbers 0021 and higher, the static correction obtained in one orbit is propagated to the next and applied to imagery acquired early in that orbit. Therefore, it is expected that for about 80% of all Da image data, georectification errors will be reduced to an average of 150 meters. This is valid for products with version number 0021, 0022, and 0023.

It has been determined, using that data acquired over three year period, that the overall pointing errors of the D-aft (Da) camera are somewhat worse than pointing errors of the other eight cameras. It should be expected that without utilization of the Reference Orbit Imagery (ROI) Da image data will contain an average geolocation error of 500 meters. However, data with product version number 0015 or higher have been produced using ROI in order to take into account dynamic pointing errors remaining after implementation of the static camera pointing models.

MISR Level 1 products generated with the Camera Geometric Model (CGM) version 7 and Reference Orbit Imagery (ROI) utilized during standard processing represent a significant improvement in terms of georectification and coregistration accuracy if compared with those generated with previous CGM's and without ROI i.e., prior to version 0012.

Previous CGM versions were based upon data from a few months or less. CGM version 7 was produced after extensive analysis of a comprehensive list of MISR image data acquired over an eighteen month time period.

ANOMALIES

It should also be noted that occasional and temporary degradations in attitude accuracy have been observed. These attitude degradations ultimately impact product geolocation and registration. Nevertheless, we expect a very small percentage of data to be affected. There is a [List of Maneuvers Orbits](#) suspected to suffer from poor attitude accuracy due to orbit maneuvers or orbit attitude data loss. Data products generated during these times contain an Orbit Quality flag which indicates this problem. The nominal value of the Orbit Quality flag in the File Metadata (Global Attributes) is 0.0. Degraded data has an Orbit Quality flag value of -1.0.

See also

- [Statement dated September 24, 2003](#) for the statement containing the text of the previous statement.
- [Statement dated October 24, 2002](#) for the statement containing the text of the previous statement.
- [Statement dated July 31, 2002](#) for the statement containing the text of the previous statement.
- [Statement dated April 15, 2002](#) for the statement containing the initial quality evaluation of MISR Camera Geometric Model 7.
- [Statement dated February 5, 2002](#) for information concerning the previous version of the MISR Camera Geometric Model (6).